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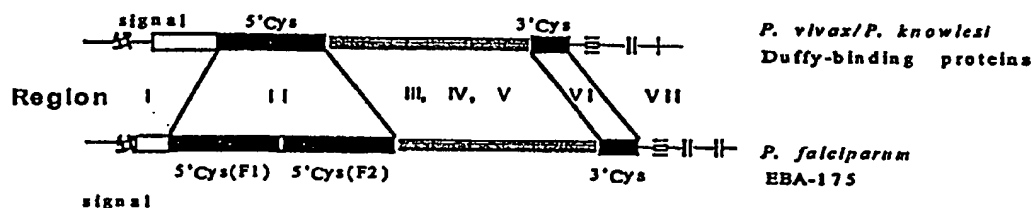
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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: ANTI-PLASMODIUM COMPOSITIONS AND METHODS OF USE



(57) Abstract: Compositions that inhibit the binding of Plasmodium falciparum to erythrocytes include a family of erythrocyte binding proteins (EBPs). The EBPs are paralogues of the P. falciparum binding protein EBA-175. The present invention includes peptides of the paralogues that prevent the binding of P. falciparum. Antibodies specific for each paralogue that also prevent the binding of P. falciparum are also included. Methods of the invention utilize the paralogues, antibodies thereof and peptide compositions for the diagnosis, prevention, and treatment of P. falciparum diseases such as malaria, as well as methods for the detection of P. falciparum in biological samples and culture media.

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# INTERNATIONAL SEARCH REPORT

International Application No.

US 01/24725

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 A61K39/00 C07K14/445 C12N15/12 C12N15/63 C07K16/20  
A61P33/02

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C12N C07K A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, BIOSIS, CHEM ABS Data, EMBASE, EMBL

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	PETERSON DAVID S ET AL: "Isolation of multiple sequences from the Plasmodium falciparum genome that encode conserved domains homologous to those in erythrocyte-binding proteins." PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES, vol. 92, no. 15, 1995, pages 7100-7104, XP002207620 1995 ISSN: 0027-8424 --- -/--	1,3,4,6, 8,10,12, 13,16-20

☒ Further documents are listed in the continuation of box C.

☐ Patent family members are listed in annex.

### \* Special categories of cited documents:

\*A\* document defining the general state of the art which is not considered to be of particular relevance

\*E\* earlier document but published on or after the international filing date

\*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

\*O\* document referring to an oral disclosure, use, exhibition or other means

\*P\* document published prior to the international filing date but later than the priority date claimed

\*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

\*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

\*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

\*A\* document member of the same patent family

Date of the actual completion of the international search

26 July 2002

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## INTERNATIONAL SEARCH REPORT

ational Application No

US 01/24725

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	KAPPE STEFAN H I ET AL: "Erythrocyte binding protein homologues of rodent malaria parasites." MOLECULAR AND BIOCHEMICAL PARASITOLOGY, vol. 89, no. 1, 1997, pages 137-148, XP002207621 ISSN: 0166-6851 page 138	1,3,4,6, 8,10,12, 13,16-20
X	----- DATABASE EMBL 'Online! EBI; 15 March 1999 (1999-03-15) "Plasmodium falciparum genome sequence" Database accession no. AL049180 XP002207624	6-12
P,X	----- MAYER D C GHISLAINE ET AL: "Characterization of a Plasmodium falciparum erythrocyte-binding protein paralogous to EBA-175." PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES, vol. 98, no. 9, 24 April 2001 (2001-04-24), pages 5222-5227, XP002207622 April 24, 2001 ISSN: 0027-8424 the whole document	1-20
P,X	----- TRIGLIA TONY ET AL: "An EBA175 homologue which is transcribed but not translated in erythrocytic stages of Plasmodium falciparum." MOLECULAR AND BIOCHEMICAL PARASITOLOGY, vol. 116, no. 1, August 2001 (2001-08), pages 55-63, XP002207623 ISSN: 0166-6851 abstract -----	1,3,4,6, 8,10,12, 13,16-20

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US 01/24725

## Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:  
  
Although claims 13-15 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.
2. ☒ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:  
  
see FURTHER INFORMATION sheet PCT/ISA/210
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

## FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

## Continuation of Box I.2

The applicant's attention is drawn to the fact that the sequence identified as SEQ ID NO:1 filed with the application is not a nucleotidic sequence but a polypeptide. Moreover, no polynucleotide sequence has been filed and, thereof, the sequence search has been carried out based on SEQ ID NO:1 (and assuming that that is the protein subject of the invention) and on its T-DNA sequence.

The applicant's attention is drawn to the fact that claims, or parts of claims, relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.